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NAME OF AUTHOR/*NOM DE L'AUTEUR* Ronald James Dyck

TITLE OF THESIS/*TITRE DE LA THÈSE* Attribution of Causality and the Expression of Aggression

UNIVERSITY/*UNIVERSITÉ* Alberta

DEGREE FOR WHICH THESIS WAS PRESENTED/*GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* PHD

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE GRADE* 1976

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THE UNIVERSITY OF ALBERTA

ATTRIBUTION OF CAUSALITY AND THE EXPRESSION OF AGGRESSION

by

© RONALD JAMES DYCK

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PSYCHOLOGY

EDMONTON, ALBERTA

FALL, 1976

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Causal Attributions and Reciprocation of Harm" submitted by Ronald James Dyck in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Psychology.

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Abstract

Attribution theorists have contended that reciprocation of harm depends partially on inferences about the causal basis of aversive treatment. According to this view, increases in the strength of personal causality attributed to a provoker for an attack should lead to increases in the level of harm reciprocated. Two studies were designed to assess the effect of normativeness of attack, foreseeability of the negative consequences and situational justification, which were proposed to influence the degree of internal causal attribution, on reciprocation of harm. In the first study, participants competed in a reaction time contest in which they were defeated on either 17%, 50% or 83% of the trials. Regardless of level of defeat, all subjects received from their partner identical levels of aversive noise that was described as typical of most other people (normative) or atypical of most other people (counternormative). In the second study as in the first, participants competed in a reaction time contest in which they were defeated on either 17%, 50% or 83% of the trials. All subjects, regardless of level of defeat, received identical levels of aversive noise from their partner who was perceived as having knowledge (high foreseeability) or not having knowledge (low foreseeability) about the kind and level of stimulation being given. Consistent with

hypotheses derived from Kelley (1971), it was found that reciprocation of harm was greater under counternormative as compared with normative attack conditions, and in the 50% compared to 17% or 83% defeat conditions. Moreover, counternormative as compared to normative attack and high as compared to low foreseeability induced more reciprocation of harm under 50% defeat but no differences under 17% and 83% defeat. Furthermore, the post-experimental questionnaire data revealed that variations in the three variables produced differences in inferences about the opponent's intent and feelings of justification for the attack. These findings confirmed assumptions about the subject's perception and interpretation of the provoking situation. The results were interpreted in terms of attribution notions and the role inferences about an attack play in determining reciprocation of harm.

ACKNOWLEDGEMENTS

I wish to express my deep appreciation to Dr. Brendan Rule who has been a constant source of invaluable guidance, help and encouragement at each stage of my doctoral studies. Thanks are also due to Dr. Allan Dobbs, Dr. William Blanchard and Dr. Michael Enzle who served on my committee and offered stimulating criticism. In addition, I would like to thank Dr. Robert Baron for his assistance and cooperation during the final stages of the project.

I would like to note my appreciation to my wife Carol and my children, Leslie and Adrian. They have stoically accepted all the difficulties associated with my graduate training and with the execution of this dissertation.

Special thanks go to my confederate, Charles Pankratz, who performed his role with excellence.

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
STUDY 1	14
Method	14
Subjects	14
Apparatus	14
Procedure	15
Results	22
Aggression Data	22
Post-Experimental Questionnaire	24
Discussion	29
STUDY 11	34
Method	34
Subjects	34
Apparatus	34
Procedure	34
Results	37
Aggression Data	37
Post-Experimental Questionnaire	38
Discussion	46
GENERAL DISCUSSION	52
REFERENCES	58
APPENDICES	63
A POST-EXPERIMENTAL QUESTIONNAIRE FOR STUDY 1	63

B POST-EXPERIMENTAL QUESTIONNAIRE FOR STUDY 11 66

C1 ANALYSIS OF DIRECT PHYSICAL AGGRESSION AS A FUNCTION OF THE NORMATIVENESS OF ATTACK AND LEVEL OF DEFEAT 70

C2 ANALYSIS OF SUBJECTS' RATINGS OF NORMATIVENESS OF ATTACK 71

C3 ANALYSIS OF SUBJECTS' RATINGS OF THEIR PERFORMANCE IN RELATION TO THEIR OPPONENT .. 72

C4 ANALYSIS OF SUBJECTS' RATINGS OF FRUSTRATION 73

C5 ANALYSIS OF SUBJECTS' RATINGS OF THEIR OPPONENT'S CAPABLENESS 74

C6 ANALYSIS OF SUBJECTS'RATINGS OF THEIR OPPONENT'S INTENTIONS 75

C7 ANALYSIS OF THE SUBJECTS'RATINGS OF THE DEGREE TO WHICH THEY FELT THEMSELVES TO BE THE CAUSE OF THE ATTACK 76

C8 ANALYSIS OF SUBJECTS' RATINGS OF JUSTIFICATION FOR THE ATTACK 77

C9 ANALYSIS OF SUBJECTS' RATINGS OF APPROPRIATENESS FOR SHOCKING THEIR OPPONENT . 78

D1 ANALYSIS OF DIRECT PHYSICAL AGGRESSION AS A FUNCTION OF THE FORESEEABILITY OF ATTACK AND LEVEL OF DEFEAT 79

D2 ANALYSIS OF SUBJECTS' RATINGS OF THEIR

OPPONENT'S KNOWLEDGE OF THE CORRESPONDENCE BETWEEN THE DIFFERENT SWITCHES AND THE DIFFERENT LEVELS OF NOISE 80

D3 ANALYSIS OF SUBJECTS' RATINGS OF OWN PERFORMANCE 81

D4 ANALYSIS OF SUBJECTS' RATINGS OF FRUSTRATION 82

D5 ANALYSIS OF SUBJECTS' RATINGS OF OPPONENT'S AGGRESSIVENESS 83

D6 ANALYSIS OF SUBJECTS'RATINGS OF OPPONENT'S COMPETITIVENESS 84

D7 ANALYSIS OF SUBJECTS' SUMMED RATINGS OF OPPONENT'S THOUGHTFULNESS, ACCEPTINGNESS, FAIRNESS, AND REASONABLENESS 85

D8 ANALYSIS OF SUBJECTS' RATINGS OF OPPONENT'S INTENTION 86

D9 ANALYSIS OF SUBJECTS' RATINGS OF OWN ANGER 87

D10 ANALYSIS OF SUBJECTS' RATINGS OF JUSTIFICATION FOR THE ATTACK 88

D11 ANALYSIS OF SUBJECTS' RATINGS OF APPROPRIATENESS FOR SHOCKING THEIR OPPONENT 89

LIST OF TABLES

Table	Description	Page
1	Mean Shock Intensity for Normativeness X Level of Defeat Interaction	23
2	Subjects Mean Ratings of Own Performance, Frustration and Opponent's Capability as a Function of Level of Defeat	25
3	Mean Justification Ratings as a Function of Normativeness and Level of Defeat	27
4	Mean Shock Intensity for Foreseeability X Level of Defeat Interaction	38
5	Subjects Mean Ratings of Own Performance and Frustration as a Function of Level of Defeat	39
6	Subjects Mean Ratings of Opponent's Aggressiveness and Competitiveness as a Function of Level of Defeat	41
7	Subjects Mean Ratings of Opponent's Intention as Function of Foreseeability and Level of Defeat	42
8	Subjects Mean Ratings of Reported Anger as a Function of Foreseeability and Level of Defeat	43
9	Subjects Mean Justification Ratings as a Function of Foreseeability and Level of Defeat	44

INTRODUCTION

Research on aggression has been concerned with investigating various antecedent conditions that lead to the expression of aggression. It has been demonstrated that frustration, physical attack, annoyers and insult induce aggressive behavior (Berkowitz, 1962; Buss, 1971; Johnson, 1972; Kaufman, 1971; Bandura, 1973). Attribution theorists (Heider, 1958; Jones & Davis, 1965; Kelley, 1971) have suggested, however, that reciprocation of harm depends more upon a person's inferences about the causal basis of aversive treatment than upon the treatment itself. According to this view, increases in the strength of personal causality attributed for a provocation should lead to more reciprocation of harm. Although some post hoc interpretations of existing data have been offered that are consistent with this notion, no research has been specifically directed toward fully examining this relationship. The purpose of the present thesis was to assess the effect of three factors proposed to influence the degree of internal causal attribution on the reciprocation of harm. These factors are normativeness of attack, foreseeability of the negative consequences of behavior and situational justification.

Many of the major theorists on aggression have postulated that physical attack is the antecedent event most likely to elicit aggression (Bandura, 1973; Berkowitz, 1962;

Buss, 1961). Indeed, a number of studies have demonstrated that the probability of retaliation varies directly with the strength of the instigating attack. In several studies, Berkowitz and his colleagues (eg. Berkowitz & Geen, 1967; Berkowitz & Lepage, 1967) found that subjects who received seven shocks from a confederate gave reliably more shocks than subjects who only received one shock. Similarly, Helm, Bonoma and Tedeschi (1972) found that the frequency of reciprocated shock varied directly with the frequency of received shock.

In several other studies using different procedures, similar effects have been observed (Epstein & Taylor,1967; Hendrick & Taylor, 1971; Shortell, Epstein & Taylor, 1970; Taylor, 1967; Taylor & Pisano, 1971). In this research, subjects participated in a reaction time contest where shock, the level of which was determined by the opponent, was contingent upon defeat. Generally, this research has demonstrated that regardless of whether the opponent increased shock settings across trials (Taylor, 1971; Shortell, Epstein & Taylor, 1970; Taylor & Pisano, 1971) or whether the opponent set relatively uniformly high or low shocks (Epstein & Taylor, 1967; Hendrick & Taylor, 1971) more intense shock settings by the opponent resulted in the subjects setting more intense shock.

Although the research reviewed thus far indicates that people reciprocate the amount of harm they have received

initially, several studies have demonstrated the importance of distinguishing between actual pain experienced and perceived harmful intent in determining level of reciprocated harm. Greenwell and Dengerink (1973), using a variation of the Taylor (1967) reaction time contest procedure, found that subjects responded to their opponent's intent as reflected in his choice of shock intensities rather than the actual intensity of shock received. That is, perceived harmful intent and not physical attack per se increased retaliation. Nickel (1974), using a different procedure, obtained similar effects. Subjects after receiving either high or low shocks from a partner were led to believe that he had intended to give either high or low shocks. The results indicated that subjects' aggression was influenced more by the amount of shock their partner had intended to give than the amount of shock actually received.

While the previous studies have demonstrated that physical attack and perceived harmful intent can induce aggressive behavior, the cognitive-perceptual basis underlying this relationship needs to be examined carefully. According to some theorists, the tendency to reciprocate an attacker's harmful behavior or at least intended harmful behavior, depends upon the attribution of causes for that behavior (Heider, 1958; Jones & Davis, 1965; Kelley, 1971). Heider (1958) has proposed that man perceives behavior as caused and that the behavior is a function of primarily

situational and/or personal causes. The response to an attack, then, may depend upon whether the cause is perceived to be the attacker, the situation or possibly both the attacker and the situation. Jones and Davis (1965), in an attempt to explicate the latter case, suggested that the presence of several possible reasons for a person's behavior is less dispositionally informative than when only one reason is present. That is to say, the correspondence of inference decreases with increases in the number of possible reasons for a behavior. Kelley (1971) attempted to elaborate the conditions under which internal causal attributions decrease. In his discounting principle, he proposed that if a person is aware of a number of plausible causes for an effect (e.g., an internal and an external cause), he then attributes the effect less to any one of them than if only one plausible cause is apparent. In other words, if other plausible causes are present, then any one given cause is discounted as the only source of the effect. Heider, Jones and Davis and Kelley suggest that to the extent that the cause of an attack is attributed to the attacker himself, greater harm should be reciprocated. On the other hand, if the cause of an attack can be attributed to several sources, where only one of the possible sources is the attacker himself, less harm should be reciprocated.

There are, however, several limitations to the foregoing analysis. First, attribution theorists have

provided only some post hoc interpretations of existing data that are consistent with their assumptions regarding the relationship between the degree of internal causal attribution and reciprocation of harm. Experiments specifically designed to test these hypotheses are required. Second, the focus of the research has been limited in that researchers have been interested in situations where only one cause for an attack, either internal or external, is apparent. For example, Greenwell and Dengerink (1973) and Nickel (1974) gave their subjects explicit information regarding the locus of causality of the attack. No studies so far have examined how the presence of several causes for an attack (internal and external), or intended attack, affect inferences about the attacker and reciprocation of harm. The present thesis was designed to test not only hypotheses about reciprocation of harm derived from attribution theory but also to extend the focus of the existing research.

While previous studies have considered only how information about a single factor such as the amount of harm given or harmful intent may influence attributions and aggression, it is important to consider how attributions and reciprocation of harm are affected when an attack is perceived as due to several causes. If, for example, two plausible causes for an attack are present, an internal and an external cause, is reciprocation of harm based on the

attribution of the attack only to the internal or the external cause without consideration of the other, or, is reciprocation of harm based on the consideration of both possible causes? Both Jones and Davis (1965) and Kelley (1971) maintain the latter. Specifically, Jones and Davis assert that a victim would be uncertain as to which cause, the internal or the external, contributes more heavily to the attack. Consequently, the victim would not be confident in any inferences made about the attacker's intention. According to Kelley, the victim discounts the influence of one possible cause if another possible cause is evident. Although Kelley suggested that the consequence of discounting is simply a general lack of confidence that the observed effect reflects the given cause, Enzle, Hansen, and Lowe (1975) demonstrated that when both internal and external plausible causes for an observed effect exist, attribution to the external cause predominates. Thus, reciprocation of harm should be influenced not only by the presence of one cause for an attack (either internal or external) but also by the presence of more than one cause (internal and external).

Research dealing with the arbitrariness of frustration is consistent with this rationale. Pastore (1952), after having subjects read descriptions of situations involving arbitrary frustration (e.g., a bus passes you by as you are waiting at a bus stop) or nonarbitrary frustration (e.g., a

bus passes you by as you are waiting at a bus stop, but you notice that it is on its way to the garage), asked them to indicate what their reactions would have been. An examination of the nonarbitrary frustration situations indicates that there are two plausible reasons for the actions of the frustrator, his own impulses and some external reason. In the arbitrary frustration situations, on the other hand, the external reason or justification for the actions of the frustrator is absent reducing the number of plausible reasons for the frustration to one, the frustrator's own impulses. According to Kelley's discounting principle, the cause of the frustration should be attributed less to the impulses of the frustrator when an external cause is also present (nonarbitrary frustration) than when no external cause is apparent (arbitrary frustration). Consequently, less reciprocation of harm would be expected in the nonarbitrary than in the arbitrary frustration situations. Although based on a different rationale but consistent with this line of thought, Pastore found that more aggressive reactions were given by subjects in the arbitrary frustration condition than by subjects in the nonarbitrary frustration condition. Using a similar procedure, Cohen (1955) and Rothaus and Worchel (1960) obtained similar effects. Rule, Dyck, and Nesdale (1976) using a situation where subjects were frustrated and then allowed to express aggression, found that subjects who were

arbitrarily as compared to nonarbitrarily frustrated expressed significantly more aggression. Examining the effect of mitigating circumstances on reciprocation of harm, Zillman, Bryant, Cantor, and Day (1975) had all subjects insulted by a confederate. Somewhat later, half of the subjects were provided with information regarding mitigating circumstances for the confederate's behavior while the other half were provided with no such information. These investigators found that moderately aroused subjects who received mitigating information expressed less aggression than moderately aroused subjects who were not provided with this information. Presumably, the mitigating circumstances provided another plausible cause for the insults other than the provoker's own impulses. Consequently, the locus of causality for the insult may have been perceived as less internal to the attacker with the result that less retaliation was expressed. Reciprocation of harm, therefore, appears partially to be a function of inferences about the causal locus for a frustration.

The degree of internal causal attribution for an action can be influenced by a number of factors. Jones and Davis (1965) argued that inferences about the locus of causality of an action are influenced by the degree to which the behavior is perceived to be in-role or normative. When a person's behavior is perceived to be directed by both the norms in the situation and his own impulses, a perceiver

cannot be certain which contributes more to the behavior. As a result, the correspondence of inference decreases. When a person's behavior is perceived to be out-of-role or counternormative, however, the correspondence of inference increases as there are few plausible reasons for the behavior other than his own impulses. Couched in Kelley's terms, normative attack may have a number of plausible causes such as the attacker's own impulses (internal cause) or an implicit rule within the situation that dictates harm doing (external cause). Thus, according to the discounting principle, the causal locus of the attack is perceived as less internal to the attacker. On the other hand, since plausible causes for counternormative attack are relatively few, the locus of causality for the attack is perceived as more internal to the attacker. A number of questionnaire studies on perceived aggressiveness bear on this line of reasoning. Kane, Doerge, and Tedeschi (1973) found that when an actor's aggression was defensive in nature and was within limits of an important situational norm, aggressiveness was not attributed to him. However, if his defensive aggression went beyond normative limits, he was then perceived as aggressive. Similarly, several other investigators have found that observers rarely judge defensive behavior within normative limits as aggressive (Brown & Tedeschi, 1973; Stapleton, Joseph, Efron, & Tedeschi, 1973). Therefore, perceived aggressiveness is a

function of the normativeness of aggression. Since, however, most of the empirical work on the relationship of normativeness to retaliation deals only with perceived aggressiveness of the attacker, more direct support for the specific effects of normative information on behavioral retaliation is required.

Inferences about the causal locus of a harmful act may also be influenced by the extent to which an attacker is perceived to be aware that his behavior negatively affects the perceiver (Jones & Davis, 1965). If the attacker is perceived as unaware of the negative consequences of his behavior, the only plausible cause for the attack is external to him. If, however, the attacker is perceived as fully aware of the negative consequences of his behavior, the causal locus of the attack is perceived to be more internal to him as few other plausible causes are apparent. While no research has concerned itself with determining the effect of an attacker's lack of foreseeability of the negative consequences of his behavior on the reciprocation of harm, most of the research on the effect of physical attack on retaliation has shown that foreseeability of the negative consequences of an attacker's behavior increases the reciprocation of harm (e.g., Epstein & Taylor, 1967). Thus, more research is required to determine the relationship between the degree of foreseeability of the negative consequences of an attack and reciprocation of

harm.

Apart from factors related to the attacker's behavior, inferences about the causal basis of a harmful act may be determined by the victim's own behavior (Jones & Davis, 1965). If a person perceives himself as responsible for an attacker's aggression, he discounts the attacker as the sole cause for the harm since another plausible cause is also present, namely, his own behavior. Epstein and Taylor (1967) found that although subjects expressed the most intense aggression against an unmitigatingly aggressive opponent, they expressed less aggression toward him when they were defeated on 17% or 83% of the trials than when they were defeated on 50% of the trials. Kelley (1971) interpreted these results within an attributional framework. He suggested that when the subject was a loser, the aggression expressed was perceived as justified ("my losing justified his punishing me"), whereas, when the subject was a winner, the aggression expressed was perceived as a result of the other's anger at losing ("my winning is making him angry"). Presumably, the subject retaliated less because his own behavior provided a partial causal explanation for the attack.

This effect, however, should occur primarily when the other's behavior is viewed as either counternormative or the other is perceived to have high foreseeability. To the extent that an attacker is perceived as behaving in a

normative fashion or is perceived as having low foreseeability, the causal locus of the attack is perceived as less internal to the attacker and less retaliation occurs regardless of degree of defeat. On the other hand, to the extent that an attacker is perceived as behaving in a counternormative fashion or is perceived to have high foreseeability which enhances the perception of internal causation, the degree of retaliation depends upon the differing levels of defeat which presumably affect perceived justification for the attack.

Two experiments were performed in order to examine the three factors proposed to influence the degree of internal causal attribution on retaliation. Specifically of interest in the first experiment was the investigation of the combined effect of normativeness and situational justification on the regulation of aggressive behavior. Of interest in the second experiment was the investigation of the combined effect of foreseeability and situational justification on the expression of aggression. It was expected that the more internal causation attributed to the attacker, the more retaliation would be expressed.

To assess these ideas in both experiments, a subject and a confederate participated in a two phase session in which the confederate attacked the subject. In the first experiment the attacking behavior was either normative or counternormative and the subject was defeated on either 17%,

50% or 83% of the trials in a reaction time contest. In the second experiment the confederate was perceived to have either high or low foreseeability as to the negative consequences of his behavior, and the subject was defeated on either 17%, 50% or 83% of the trials in a reaction time contest. Following the contest in both experiments, the subject was given an opportunity to retaliate.

Since retaliation was expected to be facilitated with increases in the perception that the locus of causality is internal to the attacker, main effects for normativeness and level of defeat in the first study, and foreseeability and level of defeat in the second study were predicted. Furthermore, differential levels of retaliation were expected as a function of the combined effects of normativeness of attack and level of defeat in the first study, and foreseeability and level of defeat in the second study. Specifically, it was predicted that the difference in retaliation between normative and counter-normative attack, and low and high foreseeability of the consequences of attack will be greater under 50% defeat than under 17% or 83% defeat.

STUDY I

METHOD

Subjects

Fifty-six males recruited from an introductory psychology course served as subjects, with each student participating to partially fulfill course requirements.

Apparatus

Three adjoining rooms were used for the experiment. One room served as a briefing room and the other two as experimental rooms. The subject's room was equipped with one set of stereo earphones, an intercom, a task board and a modified version of Buss' (1961) shock machine. The task board consisted of a metal box, 12" X 18", containing the following features: (a) a series of five red lights labelled FEEDBACK and numbered from 1 to 5; (b) a reaction time key in the lower right corner; (c) to the left of the key, three yellow lights labelled T, P and R that signalled the subject to get ready (T), to press the key (P) and to release the key (R); and (d) two green lights labelled WIN and LOSE in the middle of the board. Three electrical timers controlled the onset of these lights while a fourth timer controlled the duration of the noise generated by a white noise generator. The shock machine consisted of a metal box containing ten push buttons numbered from 1 to 10 and labelled SHOCK INTENSITY. The machine was connected to a digital printer in the confederate's room which recorded the

button number pressed.

The confederate's room was equipped with an intercom, a pair of finger electrodes, a task board similar to that of the subject's but with the addition of five switches labelled NOISE INTENSITY and numbered 1 to 5, and the digital printer.

Procedure

The experimenter described the experiment to the subject and a male confederate as one designed to assess the effects of both the giving and the receiving of reinforcement on two different tasks. It was explained that because of the nature of the tasks, one of the men would serve as the giver of reinforcement and the other as the receiver. By means of a rigged lottery, the subject was designated as the receiver.

The instructions for the first task were then presented. The subject and confederate were informed that they would be competing in a reaction time contest having 18 trials. After briefly describing the task board that each of them would have, the experimenter explained that upon the signal for each new trial (T light) the giver (confederate) was to press a noise-set button that corresponded to the intensity that he wished to give the receiver (subject) on the following reaction time trial, while the receiver was merely to get ready. The giver was told that the number 5 button corresponded to the highest intensity and the number

1 button corresponded to the lowest intensity of noise. When the press signal occurred (P light), each was to depress the reaction time key and then release it as quickly as possible in response to the release signal (R light). The giver and receiver were told that 3 seconds after releasing the reaction time key, each would receive feedback as to whether he had won or lost on that particular trial as well as feedback consisting of a numbered light corresponding to the level of noise that had been set by the giver. In addition, the receiver was told that if he lost the competition on that trial, he would also receive the corresponding intensity of noise. If the receiver won on that trial, he would receive the corresponding intensity of noise on only some of the winning trials. Thus, for all subjects win-loss and chosen intensity of noise feedback was given on all trials, and noise was given on 15 of the 18 trials. The instuctions also informed the giver and receiver that the time interval between the Trial and Press signal was 5 seconds, between the Press and Release signal varied between 3 and 7 seconds, between the Release and Feedback signal, 3 seconds, and between the Feedback and Trial signal, 5 seconds. The giver and receiver were then taken to their respective rooms.

After the procedure was briefly reviewed for the subject, the Normativeness manipulation was performed. In the normative condition, the experimenter explained that

previous research using the same apparatus had shown that most people generally increased the level of noise reinforcement over trials by progressing from levels one and two to levels four and five. In the counternormative condition, the experimenter explained that previous research using the same apparatus had shown that most people generally used low levels of noise reinforcement using numbers one and two throughout the competition.

Subjects received five different intensities of noise . Number 1 noise and number 1 light corresponded to the lowest intensity noise (60 db). The remaining intensities (2, 3, 4 and 5) corresponded to 70db, 80db, 90db and 100db. Although all subjects received identical visual and noise feedback that averaged 2.5, 3.5 and 4.5 for successive six-trial blocks, their general performance on the reaction time task differed. In the 17% defeat condition, subjects were given feedback that they lost on one out of each block of six trials; in the 50% defeat condition, subjects were given feedback that they lost on three out of each block of six trials; and, in the 83% defeat condition, subjects were given feedback that they lost on five out of each block of six trials. Thus, the pattern of noise settings, the number of noise reinforcements and level of defeat were determined by the experimenter.

After the competition, the subject and confederate returned to the briefing room where they were informed that

the next part of the experiment involved a learning task. They were told that reinforcement affected learning, and that by using different kinds and levels, it would be possible to assess the learning process. Furthermore, it was explained that the task required one of them to play the role of a teacher and the other, the role of a learner. Since the confederate had been the giver of reinforcement in the first task, he was now asked to serve as the learner and the subject was asked to serve as the teacher.

In the presence of the teacher, the learner's task was then described to the confederate. It was explained that the teacher would read a list of 12 nonsense syllables (Rule & Percival, 1971) to him and he was to repeat as many as he remembered. He would have four trials to learn all 12 syllables. In addition, the learner was informed that he would receive some electric shock as reinforcement during the trials. It was noted that although the shock could be painful, it would not be physically dangerous. The confederate was then asked if he still wished to participate as the learner. Following a slight hesitation, the learner agreed to continue; the subject invariably stated that he was prepared to continue as the teacher. After advising the teacher and learner that they would be in separate rooms and could communicate via an intercom, the experimenter took the learner into the appropriate experimental room and in view of the subject, applied the electrodes to the learner's

fingers.

The experimenter then joined the subject to explain the teacher's role. After giving the list of 12 nonsense syllables to the teacher, the experimenter explained that he was to read the entire list of words to the learner, listen to his recall and record correct responses. Furthermore, after checking the number of correctly learned syllables, he was to give to the learner one shock that he felt was appropriate to the performance on the trial. In order to establish the hostile rather than the prosocial function of the aggressive behavior (Rule & Nesdale, 1974), it was noted that previous research had shown that increasing the intensity of shock mostly hindered learning. The experimenter then added the qualification that since people varied in terms of skin resistance, it might be necessary to vary the level of shock to find the optimal one for learning. This was stated in order to provide the subject with a reason to vary the level of shock. The reading and recording procedure was to be repeated four times and the feedback was to be delivered after the first three trials.

The subject was then taken into the teacher's room and the shock apparatus uncovered. While explaining the shock machine, the experimenter noted that the subject was free to vary the intensity of shock by selecting and pushing any one of the ten buttons. It was explained that the intensity ranged from 1 (least intense) to 10 (most intense) and that

regardless of how long any button was pressed, it would only deliver a shock of fixed duration. The teacher was then given a sample shock of intensity "4". After instructing the teacher not to give any verbal reinforcement or to distract the learner through unnecessary conversation, the experimenter turned on the intercom, informed the teacher to begin and left the room.

In all conditions the confederate obtained 5, 6, 6 and 6 correct responses on trials 1 to 4, repectively. The same confederate and experimenter served for all conditions of the study. The confederate was blind to the manipulations and the experimenter was blind until each manipulation was to take place.

The experimenter joined the subject after the fourth trial and asked him to complete a brief questionnaire designed to assess his general feelings during both parts of the experiment (see Appendix A). Several of the questions provided checks on the manipulations. Specifically, in order to check the Normativeness manipulation, the subject was asked to rate whether his opponent had acted like most other people. In order to check the Defeat manipulation, the subject was asked to rate how well he had performed in relation to his opponent, rate how "frustrated" and "pleased" he himself felt during the contest and rate how "capable" his opponent was. To establish the subject's causal attributions, he was asked to rate how responsible

his opponent was for the stimulation received, rate whether he felt himself to be the cause of the stimulation received and rate whether the stimulation received was justified. In addition, the subject was asked to rate what his opponent's intention was in using the noise. Since it was felt that a judgment of appropriateness to shock the opponent may be the mediational link between the causal attribution and subsequent reciprocation of harm, an item was included to assess this assumption. During the ensuing debriefing period, the experimenter checked for suspiciousness. Moreover, the experimenter made certain that the subject understood the experiment, regarded his performance favorably and agreed not to discuss the experiment.

RESULTS

Of the 56 males who participated in the experiment, eight were excluded from the analysis. Six, distributed over most of the experimental conditions, were discarded because of suspiciousness indicated in either the post-experimental questionnaire or during debriefing, while the remaining two were excluded because of a failure to understand the instructions.

Aggression Data

Forty-eight subjects were included in a 2 X 3 X 3 repeated measures factorial design with two levels of Normativeness (normative, counternormative) and three Levels of Defeat (17%, 50%, 83%) assigned between subjects and three trials assigned within subjects. Summary tables of the analyses of variance appear in Appendix C.

The major dependent variable in the study was the intensity of shock given by the subject. An analysis of variance performed on the data revealed a significant main effect for Normativeness ($F=6.38$, $df=1,42$, $p<.025$) indicating that when subjects perceived their opponent as setting noise intensities in a normative manner, they gave less intense shock (mean=3.58) than when they perceived him as setting noise intensities in a counternormative manner (mean=4.46). The analysis also revealed a significant main effect for Level of Defeat ($F=12.55$, $df=2,42$, $p<.01$). Those subjects who were defeated on 50% of the trials gave

the most intense shock (mean=5.08), those defeated on 17% of the trials gave less intense shock (mean=4.02) and those defeated on 83% of the trials gave the least intense shock (mean=2.96).

The two significant main effects, however, were qualified by a significant Normativeness X Level of Defeat interaction ($F=3.28$, $df=2,42$, $p<.05$). As shown in Table 1, the difference in the amount of aggression expressed between normative and counter normative attack is greater under 50% defeat than under 17% or 83% defeat.

Table 1

Mean Shock Intensity for Normativeness X Level of Defeat Interaction

	Defeat		
	17%	50%	83%
Normative	3.63	4.08	3.04
Counter-Normative	4.42	6.08	2.88

An analysis of simple main effects indicated that under 50% defeat significantly more shock was given when the attack was perceived as counter-normative ($F=11.12$, $df=1,42$, $p<.025$). No significant differences were found between normative and counter normative attack under 17% or 83% defeat conditions. The analysis of variance is summarized

in Appendix C1.

Post-experimental Questionnaire

To analyze the questionnaire measures, a 2 X 3 factorial design with two levels of normativeness (normative, counternormative) and three levels of defeat (17%, 50%, 83%) assigned between subjects was used.

In order to check the effectiveness of the Normative manipulation, the subjects rated, on a 7-point scale, their feelings of whether their opponent acted like most other people in terms of noise intensities chosen. Only a significant main effect for Normativeness was found ($F=11.34$, $df=1,42$, $p<.01$) indicating that subjects receiving normative attack perceived their opponent as setting noise intensities more like other people (mean=6.13) than subjects receiving counternormative attack (mean=4.63). Appendix C2 summarizes the analysis of variance.

As an additional check on the Normativeness manipulation, subjects were asked during debriefing to recall what the experimenter said concerning the pattern of noise settings found in previous research. All subjects in both the normative and counternormative condition correctly recalled the experimenter's statements. These data supported the Normativeness manipulation.

The effectiveness of the Defeat manipulation was assessed by asking subjects to rate how well they performed in comparison to their opponent, rate their opponent's

capableness and rate their general feelings during the session on a 5-item scale. This scale included ratings of how "frustrated" and "pleased" (and other filler items) they felt during the study. Higher scores indicated more unfavorable ratings. As shown in Table 2, subjects reported that they performed more poorly ($F=112.16$, $df=2,42$, $p<.001$), felt more frustrated ($F=6.54$, $df=2,42$, $p<.01$) and rated their opponent as more capable ($F=3.09$, $df=2,42$, $p<.10$) with increasing levels of defeat. Analysis of subjects ratings of how pleased they felt revealed no significant differences.

Table 2

Subjects Mean Ratings of Own Performance, Frustration and Opponent's Capability as a Function of Level of Defeat

	Defeat		
	17%	50%	83%
Own performance	1.88	3.50	6.13
Frustration	1.81	2.31	3.75
Capable	3.75	3.19	2.75

No other significant effects were found on these items. Appendices C3, C4 and C5 summarize the analysis of variance for the respective items. These data supported the defeat manipulation.

It should be noted that subjects in the 17% defeat condition, although winning most of the time, received just as much aversive noise as subjects in the other defeat conditions. The receipt of noise even though winning could increase the degree of frustration. However, as the data indicate, this did not occur.

In order to determine the subjects' perception of their opponent's intentions in the choice of noise intensities, they were asked to rate on a 7-point scale whether they felt tha their opponent was trying to "help" or "hinder" their performance. Subjects in both the 17% and 50% defeat conditions felt that their opponent was intending to hinder their performance more than subjects in the 83% defeat condition ($F=10.77$, $df=2,42$, $p<.01$). The means were 5.38, 5.00 and 2.63, respectively. No other effects were found to be significant. A summary of the analysis of variance appears in Appendix C6.

In order to tap feelings about the causal locus of the attack, subjects were asked to rate how responsible they felt their opponent was for the attack and how much they felt themselves to be the cause for the attack. While no significant effects were found on the latter item, a marginally significant Normativeness main effect was found on the former item ($F=3.66$, $df=1,42$, $p<.10$). Subjects receiving normative attack perceived the opponent as less responsible for the amount of noise received (mean=3.88)

than subjects receiving counternormative attack (mean=4.88) A summary of the analysis of variance is presented in Appendix C7.

An analysis of ratings of the subjects perception of justification for the intensities of noise received revealed a significant main effect for Level of Defeat ($F=5.14$, $df=2,42$, $p<.05$) indicating that subjects experiencing 50% defeat, in comparison to those experiencing 17% or 83% defeat, felt the noise intensities received were least justified. Subjects experiencing 17% defeat felt the noise intensities received less justified than subjects experiencing 83% defeat. The means were 3.94, 2.94 and 2.63, repectively.

Table 3

Mean Justification Ratings as a Function of Normativeness and Level of Defeat

	Defeat		
	17%	50%	83%
Normative	3.25	3.25	2.88
Counter-Normative	2.63	4.63	2.34

A significant Normativeness X Level of Defeat interaction was also found ($F=3.43$, $df=2,42$, $p<.05$). As shown in Table 3, the difference in rated justification for the noise

received between normative and counternormative attack was greater under 50% defeat than under 17% or 83% defeat. Subjects experiencing 50% defeat and counter-normative attack rated the noise intensities as least justified. Appendix C8 contains a summary of the analysis of variance.

Finally, subjects were asked to rate how appropriate it was to shock the other person. Only a significant main effect for Level of Defeat was found ($F=3.80$, $df=2,42$, $p<.05$) indicating that subjects experiencing 50% defeat felt it more appropriate (mean=4.88) to give shock than subjects experiencing 17% (mean=4.63) or 83% (mean=3.69) defeat. A summary of the analysis of variance appears in Appendix C9.

DISCUSSION

As predicted, less retaliation was expressed when subjects perceived that their opponent's attack was normative rather than counternormative. Furthermore, subjects tended to attribute the cause for the attack to the attacker more under counternormative than under normative conditions. That is, dispositional attributions tended to increase under counternormative conditions. The latter finding is consistent with previous research that has shown that out-of-role behavior (Jones, Davis, & Gergen, 1961) or behavior that violates a prior expectancy (Jones, Worchel, Goethals, & Grumet, 1971) increases dispositional attributions. However, viewing counternormative information as that which has a low consensus, the latter finding is inconsistent with research which has revealed that variations in consensus information has little effect on the degree of dispositional attributions (Miller, Gillen, Schenker, & Radlove, 1973; Nisbett & Borgida, 1975). One possible explanation of why no differences were found in the latter two studies is that the social behaviors described were explicitly negative whereas in the former two studies, the described behaviors were much less negative. For example, Miller et al. (1973) asked subjects to make inferences about a person who had exhibited high levels of aggressiveness in a Milgram-type experiment under conditions in which they were given consensus information indicating

that most people delivered high levels of shock (450 volts) to their partner or were not given such information about level of shock used. Nisbett and Borgida (1975) asked subjects to give their general impressions about two experiments and make predictions about target cases participating in these experiments. The first experiment was a description of the high-fear condition in the Nisbett and Schachter (1966) study in which the modal subjects took enough shock to produce a violent contraction of the arm. The other experiment was a description of the Darley and Latane (1968) bystander intervention study in which the modal subject did not help the confederate who feigned a seizure. On the other hand, Jones et al. (1961) asked subjects to make inferences about a person who provided answers to questions in accord or not in accord with qualifications for a particular job. Jones et al. (1971) asked subjects to make inferences about a person who created the expectancy that he would be for, or against, legalizing marijuana and then arguing for, or against, that position under conditions of choice or no choice. McArthur (1972) asked subjects to make causal inferences about a number of behaviors (e.g., John laughs) after receiving consensus, distinctiveness and consistancy information. She found that the low consensus information produced more person (dispositional) and less stimulus attribution. Thus, it may be that the negative social behaviors described in the

Miller et al. and Nisbett and Borgida studies simply override the impact of consensus information on dispositional attributions. Moreover, it appears that when the described behaviors are more neutral, variations in consensus information produce a difference in dispositional attributions. Nisbett and Borgida noted, in addition, that consensus information may have more of an impact if the observer were responding in an immediate situation to a target. In the present experiment, subjects were involved in a situation where their interaction with a confederate was salient and immediate and, indeed, it was found that consensus (normative) information affected not only dispositional attributions but also reciprocation of harm.

The prediction that differing levels of defeat would have differential effects on retaliation primarily when the attacker's behavior is counternormative was confirmed. Specifically, reciprocation of harm was greatem in the condition where only internal causes were plausible and lower in all other conditions in which there was at least one plausible external cause for the attack. These results support Kelley's (1971) assertion that the possibility of a plausible external cause for attack leads to discounting the internal cause. Furthermore, the fact that normative information and the subject's own behavior provided a plausible external reason for the attack, and as such appeared to be a sufficient explanation, is consistent with

Enzle et al.'s (1975) finding that external attribution predominates when both an internal and an external plausible cause exist for a behavior. They suggested that since an external cause is observable and need not be inferred, more weight is given to the external as compared to the internal cause in explaining the behavior.

Consistent with previous research (Epstein & Taylor, 1967) the most reciprocated harm occurred when subjects were defeated on 50% of the trials, intermediate harm when subjects were defeated on 17% of the trials and the least harm when subjects were defeated on 83% of the trials. Moreover, the secondary data supported Kelley's (1971) attributional interpretation of Epstein and Taylor's results under conditions of unmitigating attack. Specifically, subjects who were defeated on 50% of the trials felt not only that the attack was less justified but also that their opponent's intent was to harm them. Although subjects in both the 17% and 83% defeat conditions felt that the attack was more justified, they did so for different reasons. Similar to the subjects in the 50% defeat condition, subjects defeated on 17% of the trials felt that their opponent's intention was to harm them, whereas, subjects defeated on 83% of the trials felt that their opponent's intention was to help them. Apparently, the subjects assumption that their partner was getting back at them in the 17% defeat condition and trying to help them in the 83%

defeat condition led them to see reciprocation of harm as less appropriate. Moreover, while other investigators (Greenwell & Dengerink, 1973; Nickel, 1974) have demonsrated that an attacker's harmful intent can induce reciprocation of harm, the present data indicate that other factors in the situation are also considered in determining the harm reciprocated. In particular, the results indicated that although harmful intent was perceived as underlying the attack in the 17% defeat condition, the contribution of the subject's own behavior mitigated retaliation. In total, these findings support the notion that when there are several possible reasons (internal and external) for an attack, nondispositional attributions are enhanced (Heider, 1958; Kelley, 1971). Furthermore, support is given to Jones and Davis' contention that even intentional attack is mitigated by justification.

STUDY II

METHOD

Subjects

The subjects were 52 male introductory psychology students who participated in the experiment in order to satisfy partially a course requirement.

Apparatus

The apparatus was identical to that in Study I except for the inclusion of headphones in the confederate's room.

Procedure

The procedure was identical to that in the former study except for some changes in the instructions relating to the foreseeability manipulation. Foreseeability was manipulated by making certain that the receiver (subject) understood that the giver (confederate) had knowledge about the kind of reinforcement he would be giving and the relationship between the five switches and the five intensities of noise, or, that the giver did not have this knowledge. More specifically, the giver and receiver in the high foreseeability condition were told that the kind of reinforcement to be given during the reaction time contest involved five different intensity levels of noise. In addition, they were informed that the number 5 switch corresponded to the highest intensity noise and that it had been previously judged as definitely unpleasant, and the number 1 switch corresponded to the lowest intensity noise.

Moreover, the giver was presumably given a sample of each noise level prior to the start of the contest.

In the low foreseeability condition, the giver and receiver were told that there were five different levels of reinforcement that could be given. However, no mention of the kind of reinforcement was made, nor were they told which of the five switches controlled which level of reinforcement. In fact, the participants were informed that before each trial began, the order of switches controlling the different levels would be changed randomly. After taking the receiver to his room, the experimenter informed him that the kind of reinforcement being used was white noise. It was also explained that the light feedback did not correspond to the button pressed by the giver, but corresponded to the level of noise that the switch was controlling on that particular trial.

Several changes were made in the post-experimental questionnaire in order to assess the subjects perceptions of their opponent and the causal locus of harm experienced during the reaction time contest (see Appendix B). Specifically, subjects were asked to rate their opponent in terms of how "thoughtful", "aggressive", "accepting", "kind", "competitive", "fair", "reasonable" and "angry" he seemed during the reaction time contest. Furthermore, subjects were asked to rate whether they themselves or their opponent was the cause of the noise received. In addition,

anger was assessed.

RESULTS

Of the 52 males who participated in the experiment, four were excluded from the analysis. Three were discarded because of suspiciousness as indicated by the post-experimental questionnaire and/or during debriefing, while the remaining one was excluded because he refused to give shock for ethical reasons.

Aggression Data

Forty-eight subjects were included in a 2 X 3 X 3 repeated measures factorial design having two levels of foreseeability (high, low) and three levels of defeat (17%, 50%, 83%) assigned between subjects and three trials assigned within subjects. Summary tables of the analyses of variance appear in Appendix D.

As in the first study, the major dependent variable in the study was the intensity of shock given by the subject. Analysis of variance performed on the data revealed a significant main effect for Level of Defeat ($F=3.71$, $df=2,42$, $p<.05$). Subjects experiencing 50% defeat gave more intense shock (mean=4.73) than subjects experiencing 17% defeat (mean=3.85) or 83% defeat (mean=3.69). A marginally significant Foreseeability X Level of Defeat interaction was also found ($F=2.61$, $df=2,42$, $p<.10$). As shown in Table 4, the difference in the amount of aggression expressed between high and low foreseeable attack is greater under 50% defeat than under 17% or 83% defeat. Under 50% defeat, subjects in

the foreseeable attack condition gave more intense shock.

Table 4

Mean Shock Intensity for Foreseeability X Level of Defeat Interaction

	Defeat		
	17%	50%	83%
Low Foreseeability	4.04	4.13	3.92
High Foreseeability	3.67	5.33	3.46

Analysis of simple main effects revealed that under 50% defeat, significantly more shock was given when foreseeabilty was perceived as high than when it was perceived as low ($F=7.01$, $df=1,42$ $p<.05$). No significant differences were found between high and low foreseeability under 17% or 83% defeat conditions. A summary of the analysis of variance is presented in Appendix D1.

Post-experimental Questionnaire

To analyze the questionnaire measures, a 2 X 3 factorial design with two levels of foreseeability (high, low) and three levels of defeat (17%, 50%, 83%) assigned between subjects was used.

In order to check the effectiveness of the Foreseeability manipulation, subjects rated on a 7-point scale their feelings about whether their opponent knew which

switches controlled which levels of noise. Only a significant main effect for Foreseeability was found ($F=232.97$, $df=1,42$, $p<.001$) indicating that subjects in the high foreseeability condition felt their opponent knew the relationship between switches and noise levels (mean=1.63), whereas, those in the low foreseeability condition felt their opponent did not know this relationship (mean=6.17). Thus, the data support the Foreseeability manipulation. Appendix D2 summarizes the analysis of variance.

The effectiveness of the Defeat manipulation was assessed by asking subjects to rate how well they performed in comparison to their opponent, rate their opponent's capableness and rate their general feelings during the contest on a 6-item scale.

Table 5

Subjects Mean Ratings of Own Performance and Frustration as a Function of Level of Defeat

	Defeat		
	17%	50%	83%
Own performance	2.13	3.81	6.31
Frustration	2.63	4.00	5.31
Pleased	2.69	3.94	4.69

This scale included ratings of how "frustrated" and how

"pleased" (and other filler items) they felt during the study. Higher scores indicated more unfavorable ratings. As indicated in Table 5, subjects reported performing more poorly ($F=94.70$, $df=2,42$, $p<.001$) and feeling more frustrated ($F=9.40$, $df=2,42$, $p<.01$) and less pleased ($F=11.51$, $df=2,42$, $p<.01$) with increasing levels of defeat. Analysis of subjects ratings of their opponent's capableness revealed no significant differences. No other significant effects were found on these items. Appendices D3 and D4 contain the summary of the analysis of variance for the separate items. Thus, the data supported the defeat manipulation.

It should be noted that a possibility exists that subjects in the 17% defeat condition should be more frustrated as a result of receiving aversive noise while winning most of the trials. However, the data indicate that this did not occur.

Several items were included to tap the subjects perceptions of their opponent. Specifically, subjects were asked to rate on 7-point scales with higher scores indicating less favorable ratings how "aggressive" and "competitive" their opponent seemed during the reaction time contest. Analysis of scores on these items indicated that subjects rated their opponent as significantly more aggressive ($F=4.56$, $df=2,42$, $p<.05$) and more competitive ($F=11.69$, $df=2,42$, $p<.01$) with increasing levels of defeat.

Table 6 presents the means for these items and Appendices D5 and D6 contain the analysis of variance for the separate items.

Table 6

Subjects Mean Ratings of Opponent's Aggressiveness and Competitiveness as a Function of Level of Defeat

	Defeat		
	17%	50%	83%
Opponent's Aggressiveness	3.38	4.56	4.81
Opponent's Competitiveness	3.69	5.50	6.00

In addition, subjects were asked to rate how "thoughtful", "kind", "fair" "accepting" and "reasonable" their opponent seemed during the contest. Although analysis of the separate items revealed no significant effects, a marginally significant main effect for defeat was found when an analysis of variance was performed on the summed ratings ($F=2.74$, $df=2,42$, $p<.10$). Subjects experiencing 50% defeat rated their opponent less favorably overall (mean=19.75) than subjects experiencing 17% (mean=17.06) or 83% (mean=17.06) defeat. Appendix D7 presents a summary of the analysis of variance for the summed ratings.

Subjects were also asked to rate their opponent's

intentions (whether he was trying to help or hinder their reaction time) regarding the settings of noise intensity. A marginally significant Foreseeability X Level of Defeat interaction was found ($F=2.70$, $df=2,42$, $p<.10$). As shown in Table 7, subjects in the high foreseeability condition experiencing either 17% or 50% defeat rated their opponent as intending to hinder their performance more than subjects in the low foreseeability condition, whereas, the reverse was true for 83% defeat.

Table 7

Subjects Mean Ratings of Opponent's Intention as a Function of Foreseeability and Level of Defeat

	Defeat		
	17%	50%	83%
Low Foreseeability	3.50	4.13	4.13
High Foreseeability	4.75	4.88	3.13

None of the other effects was significant. Appendix D8 presents the summary of the analysis of variance.

An analysis of subjects ratings of how angry they felt yielded two significant effects. A significant main effect for level of defeat was found ($F=5.48$, $df=2,42$, $p<.01$) indicating that subjects experiencing 50% defeat felt more angry (mean=3.19) than did subjects experiencing 17%

(mean=1.69) or 83% (mean=2.31) defeat. Furthermore, a marginally significant Foreseeability X Level of Defeat interaction was found ($F=3.07$, $df=2,42$, $p<.10$). As indicated in Table 8, the difference in the degree of anger expressed between high and low foreseeability conditions is greater under 50% defeat than under 17% or 83% defeat. Subjects in the high foreseeable-50% defeat condition rated themselves as most angry.

Table 8

Subjects Mean Ratings of Reported Anger as a Function of Foreseeability and Level of Defeat

	Defeat		
	17%	50%	83%
Low Foreseeability	2.00	2.38	2.00
High Foreseeability	1.38	4.00	2.63

A summary of the analysis of variance is presented in Appendix D9.

In order to determine the subjects inferences about the causal locus of the attack, subjects were asked to rate the extent to which they felt the noise settings and amount of noise received was due to their opponent or themselves. No significant effects were found on this item. However, subjects ratings of justification for the intensities of

noise received yielded a significant main effect for Level of Defeat ($F=8.05$, $df=2,42$, $p<.01$). Subjects experiencing 50% defeat felt the noise received as less justified (mean=4.25) than subjects experiencing 17% (mean=2.88) or 83% (mean 3.00) defeat. Although the Foreseeability X Level of Defeat interaction was not significant ($F=1.52$, $df=2,42$, $p<.25$), inspection of the direction of the means indicated that they parallel the shock data. That is, the difference in rated justification for the noise received between low and high foreseeable conditions is greater under 50% defeat than under 17% or 83% defeat. The means and the summary of the analysis of variance are presented in Table 9 and Appendix D10, repectively.

Table 9

Subjects Mean Justification Ratings as a Function of Foreseeability and Level of Defeat

	Defeat		
	17%	50%	83%
Low Foreseeability	3.00	3.75	2.63
High Foreseeability	2.75	4.75	3.38

An analysis of the subjects ratings of the appropriateness of shocking their opponent revealed a marginally significant main effect for Foreseeability

(F=2.87, df=1,42, p<.10) indicating that subjects in the high foreseeability condition in comparison to subjects in the low foreseeability condition, felt it more appropriate to shock their opponent. The means were 3.67 and 2.96, respectively. Moreover, a significant main effect for Level of Defeat was found (F=3.96, df=2,42, p<.05). Subjects experiencing 50% defeat felt it more appropriate to shock their opponent (mean=4.13) than did subjects experiencing 17% (mean=3.06) or 83% (mean 2.75) defeat. Appendix D11 summarizes the analysis of variance.

DISCUSSION

The attacker's foreseeability of the negative consequences of his behavior on the victim did not differentially affect the amount of reciprocation of harm. Although the foreseeability manipulation was effective, the lack of effects was due to the interaction of foreseeability with levels of defeat. Under 17% and 83% defeat, high as compared to low foreseeability subjects tended to express, although not significantly, less retaliation whereas under 50% defeat conditions they expressed more retaliation, thereby cancelling out any differences between high and low foreseeability. Although the secondary data revealed, for the most part, that variations in foreseeability had little direct effect on subjects' perceptions of the attacker, there was a tendency for foreseeability to interact with level of defeat to produce differences in subjects' inferences about their attacker's intention. Whereas subjects under conditions of low foreseeability tended to be uncertain about the attacker's intention, subjects in high foreseeability conditions tended to be more certain that the attacker was intending to harm or help them. That is, low foreseeability subjects' ratings tended to fall around the mid-point on the 7-point scale while high foreseeability subjects' ratings were more extreme. These data tend to support Jones and Davis' (1965) contention that the correspondence of inference increases when an actor is

perceived to know that his actions affect the perceiver particularly when the actions are harmful.

The foreseeability variable, as operationalized in the present study, is very similar to what Jones and Davis (1965) describe as personalism. They referred to personalism as the perceiver's belief that the observed action is uniquely conditioned by his presence. Moreover, they suggested that the consequence of high personalism is that the perceiver is likely to make strong inferences about the actor's intentions. Foreseeability, as manipulated in the present study, influenced subjects' inferences about the attack being occassioned by their presence. Subjects in the high foreseeability condition perceived their opponent to be aware that his choice of switches determined level of aversive noise given. This perceived awareness resulted in the perception that the opponent's choice of noise settings was personalistic as suggested by the strong inferences about his intentions. On the other hand, subjects in the low foreseeability condition perceived their opponent as unaware of the consequences of his choices. This lack of awareness resulted in subjects being uncertain about the attacker's intentions. Thus, although questions were not directly asked regarding whether the subject felt that the attack was uniquely conditioned by his presence, the attributional data suggest that foreseeability as used in the present experiment resembles Jones and Davis'

conceptualization of personalism.

As in Study 1, Kelley's (1971) assumption that the possibility of an external cause for an attack leads to discounting the internal cause, thereby reducing retaliation, was confirmed. Reciprocation of harm was lower in all conditions in which there was at least one plausible external cause and greater in the condition in which internal causes were plausible. Perceived high foreseeability or the subjects own behavior provided a plausible explanation for the attack which was sufficient. These findings also support Enzle et al.'s (1975) finding that the presence of a plausible external cause provides a sufficient explanation rendering internal attributions ineffective as plausible causes.

Consistent with Study 1 and Epstein and Taylor (1967), subjects who were defeated on 50% of the trials reciprocated with more harm than those who were defeated on 17% or 83% of the trials. Furthermore, the secondary data revealed similar findings to those of Study 1. Subjects who were defeated on 50% as compared to those defeated on 17% or 83% of the trials felt not only that the attack was less justified but also that it was more appropriate to retaliate. However, attribution of intent was similar to Study 1 only under conditions of high foreseeability. That is, subjects defeated on 17% and 50% of the trials felt that their attacker's intent was to harm them whereas those who

were defeated on 83% of the trials felt that the attacker's intent was to help them. Apparently, the assumption of subjects in the 83% defeat condition that the attacker was trying to help them, and the assumption of subjects in the 17% defeat condition that the attacker was getting back at them led them to see the attack as more justified and reciprocation of harm as less appropriate. Under conditions of low foreseeabilty, subjects appeared uncertain about the attacker's intentions. Consequently, they saw retaliation as less appropriate. Thus, as in Study 1, the present data indicate that other factors in the situation, in addition to the attacker's harmful intent, are considered in determining the level of reciprocated harm. Furthermore, these findings support not only Jones and Davis' (1965) notion that the correspondence value of an action is lowered when there are several possible reasons for its occurrence but also their contention that retaliation is mitigated by justification.

In addition to the findings of Study 1, the present study revealed that anger was differentially affected by level of defeat. Subjects defeated on 50% of the trials rated themselves as more angry than those defeated on 17% or 83% of the trials. Although previous studies suggest that the effect of justification on the reduction of aggression is due to inhibition (Burnstein & Worchel, 1962), the present findings indicate that justifying reasons for a provocation reduce the instigation to aggression (cf. Rule,

Dyck, & Nesdale, 1976).

The apparent lack of correspondence between dispositional attributions and retaliation necessitates some comment. It has generally been assumed amongst attribution theorists that dispositional attributions have an effect on behavior (Heider, 1958; Jones & Davis, 1965). In the present study, this was not totally supported. Although subjects attributed more aggressiveness and competitiveness to the attacker with increasing levels of defeat, they reciprocated with less harm when they were defeated the least or most often as compared to when they were defeated 50% of the time. One possible explanation for this discrepancy is that aggressiveness and competitiveness were interpreted on the part of the subjects within the context of a contest and therefore the two items referred to a strategy of play rather than a trait of hostility. Indeed, when subjects were asked to rate the attacker on items that perhaps are more related to hostility such as how fair, kind, thoughtful, accepting and reasonable he seemed, the attacker was perceived less favorably overall under 50% as compared to 17% or 83% defeat conditions. This finding corresponded to the levels of harm reciprocated over the different defeat conditions. Thus dispositional attributions that are related to hostility may partially determine the strength of retaliation. However, the other possible explanation for this discrepency is that since

inferences about the attacker's intent, the justifiability of the attack and the subjects own feelings of anger were shown to be important in predicting retaliation, it may well be that dispositional attributions are not as important as the entire context in determining the level of harm reciprocated.

GENERAL DISCUSSION

Studies 1 and 2 were designed to investigate how inferences about the causal basis of an attack affect reciprocation of harm. On the whole, the results of both studies formed quite a coherent pattern. Reciprocation of harm was influenced by differing levels of defeat primarily when the attack was perceived as counternormative or when the attacker was perceived as having full knowledge of the negative consequences of his actions. Specifically, subjects experiencing counternormative as compared to normative attack and subjects perceiving the attacker as having high as compared to low foreseeability reciprocated with significantly more harm when defeated on 50% of the trials but did not differ significantly in the amount of reciprocated harm when they were defeated on 17% or 83% of the trials. The level of reciprocated harm was greater in the condition where only internal causes for the attack were evident but lower in the conditions where at least one external cause for the attack was plausible. Thus, the results of both studies provide support for Kelley's contention that the internal cause of an action is discounted if there is a plausible external cause. In addition, the results support Enzle et al.'s(1975) notion that internal attributions are given little consideration in reaching a causal explanation for an action if a plausible external cause exists.

The above findings have implications for the apparent direct relationship between the strength of a physical attack and the level of retaliation. Although previous research has demonstrated that reciprocation of harm varies with the strength of the attack (e.g., Helm et al., 1971), the results of the present two studies indicate that when the strength of the attack is held constant, the level of reciprocated harm can be influenced by other factors in the situation. Specifically, even though all subjects in both studies received identically the same amount and level of physical attack, their own behavior in combination with the normativeness of attack or their perceptions of the attacker's degree of foreseeability differentially affected the level of reciprocated harm. Thus, other considerations must be taken into account in determining retaliation.

The present studies are not the only ones to have reached this conclusion. Greenwell and Dengerink (1973) and Nickel (1974) have demonstrated that the intention of the attacker rather than the actual pain experienced is important in determining the level of retaliation. Although consistent with their findings, the results of the present studies indicate that other features of the situation can also decrease the impact of perceived harmful intent. Subjects who were defeated on 17% of the trials felt that the attacker intended harm, similar to subjects experiencing 50% defeat, but reciprocated with less harm as they felt the

attack to be justified in that their own behavior provided a partial explanation for the attack. That is, the subject's own behavior mitigated retaliation.

It was suggested earlier that increases in internal attribution for an attack should lead to increases in the strength of reciprocation of harm. Clearly, the conceptualization of the variables along the internal-external dimension and their influence on reciprocation of harm support this assumption. However, the lack of significant findings on the causal attribution items in both studies necessitates a closer examination of the assumption. Although a possible explanation for the overall lack of results on these items is that the measures were insensitive to eliciting causal attributions, a more likely explanation has been offered by Kruglanski (1976). He suggested that the internal-external dimension of causality for an action creates problems in determining when an action is perceived as internal and when it is perceived as external to the actor. In fact, he argued that since all actions are assumed to be determined by the will and the will is internal to the person, it follows that all actions are determined internally. In the present studies, the attacker, regardless of the normativeness of the attacker or the degree of foreseeability of the negative consequences of his actions, harmed the subjects by his actions. No matter whether there were justifying reasons for the harm or not,

the attacker still caused the harm to occur and, consequently, few differences should be perceived in the causal locus of the attack. Indeed, no differences were found in causal attributions. In determining the level of retaliation, subjects may have been attending to the reasons, if any, for the attack. Kruglanski proposed that an endogenous attribution is made when an action is an end in itself with no justifying reasons for its occurrence while an exogenous attribution is made when the action is a means to an end. Furthermore, he suggested that an endogenous attribution implicates the actor's intention and this intention may, in turn, elicit reciprocation. Consistent with this rationale, the strongest retaliation occurred when the attacker was perceived as having harmful intent and when no justifying reasons existed. Thus, rather than focusing on the internal-external dimension of causality by asking subjects to rate an actor's responsibility for, or whether he is the cause of, an attack, it would seem more appropriate to assess whether or not there were justifying reasons for the attack in order to make predictions about degree of reciprocation of harm.

Similar to Kruglanski, Nesdale and Rule (1976) have suggested that when a person is attacked by another, the attacker is perceived as the cause of the harm regardless of whether it is accidental, intended or intended with mitigating circumstances. In addition, they have proposed

that harm is reciprocated only if the attacker is perceived as responsible for the harm. Conversely, less harm is reciprocated if the attacker is perceived as less responsible for the harm. Such mitigating circumstances as low personalism, justification or obligation to harm decrease percived responsibility. Consistent with this rationale, less harm was reciprocated when the harm was perceived as justified or when low personalism was evident. Moreover, in Study 1, subjects not only perceived the attacker as more responsible for counternormative attack but also reciprocated with more harm. More research is required, however, to examine further the role of attribution of responsibility for an attack on reciprocation of harm.

The present findings also have implications for an attributional perspective on aggression. Attribution theory, in general, has addressed itself to the processes intervening between information and the attribution. That is, attribution models have attempted to explain how information such as a behavior, its consequences and the circumstances under which the behavior occurred is processed in getting to an attribution. Although some researchers and theorists have attempted to extend the models by showing how they may be used in predicting behavioral responses, Kelley (1971) has suggested that attributions, at best, only partially mediate overt behavior. Bem (1972), taking a more

restrictive position, argued that while attributions and behavior may be related, the mechanism or link between them is not specified. Indeed, he asserted that in order to specify how attributions affect behavior new attribution models are required. The present studies attempted to examine not only how contextual factors surrounding an attack affect attributions but also how these attributions influence reciprocation of harm. Indeed, variations in the normativeness of attack, foreseeability of the negative consequences and level of defeat produced differences in the attributions concerning the opponent's intent as well as in the perception of justification for attack. These attributions not only influenced the degree of anger felt (at least in Study 2) but also the level of harm reciprocated. Therefore, these studies support the notion that attributions mediate noncognitive responses such as retaliation. None of the current theories in aggression, however, provides a framework within which to determine how a person's interpretation of a possibly provoking situation affects retaliation. Thus, a comprehensive attribution theory of aggression is required in order to elaborate the factors which influence cognitions about a provocation and the effect of these cognitions on subsequent reciprocation of harm.

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APPENDIX A

POST-EXPERIMENTAL QUESTIONNAIRE FOR STUDY 1

1. Rate the other subject's general performance during this study.

He tried very hard	/ / / / / / / /	He did not try at all
He was very capable	/ / / / / / / /	He was not capable at all

2. Rate the other subject's general feelings during the study.

Very confident	/ / / / / / / /	Not at all confident
Very fed-up	/ / / / / / / /	Not at all fed-up
Very interested	/ / / / / / / /	Not at all interested
Very involved	/ / / / / / / /	Not at all involved
Very angry	/ / / / / / / /	Not at all angry
Very cheerful	/ / / / / / / /	Not at all cheerful

3. Rate your own general feelings during the study.

Very motivated	/ / / / / / / /	Not at all motivated
Very interested	/ / / / / / / /	Not at all interested
Very frustrated	/ / / / / / / /	Not at all frustrated
Very pleased	/ / / / / / / /	Not at all pleased
Very upset	/ / / / / / / /	Not at all upset

4. To what extent do you feel the other subject responsible for the stimulation you received in the first place.

Very responsible /__/__/__/__/__/__/__/__/ Not at all responsible

5. To what extent do you feel yourself to be the cause of the stimulation received in the first place.

Very much the cause /__/__/__/__/__/__/__/__/ Not at all the cause

6. To what extent do you feel the other subject acted like most other people would in the first phase.

Acted like others would /__/__/__/__/__/__/__/__/ Did not act like others would

7. To what extent do you feel the other subject's stimulation was justified in the first phase.

Very justified /__/__/__/__/__/__/__/__/ Not at all justified

8. Rate your own performance on the reaction time contest in relation to your opponent.

Better /__/__/__/__/__/__/__/__/ Worse

9. To what extent do you feel the other subject was trying to help you perform better on the reaction time contest by his choice of noise settings?

Help a great deal /__/__/__/__/__/__/__/__/ Not help at all

10. Rate your feelings about shocking the other subject on the following scales:

Not at all appropriate /__/__/__/__/__/__/__/__/ Very appropriate

Not at all afraid /__/__/__/__/__/__/__/__/ Very afraid

Not at all pleased /__/__/__/__/__/__/__/__/ Very pleased

Not at all anxious / / / / / / / / Very anxious

11. What did the experimenter say the effect of increasing the level of shock was on learning?

12. Do you think that shock had any effect on the other subject's performance?

Improved performance greatly / / / / / / / / Hindered performance greatly

13. How important was it to you to do well?

Very important / / / / / / / / Not at all important

14. How much do you think you would like the other subject?

Like very much / / / / / / / / Not like at all

15. How willing would you be to work on another project with the other subject?

Very willing / / / / / / / / Not at all willing

16. Did you understand the purpose of the experiment? Would you explain it briefly in your own words?

17. Any comments?

APPENDIX B

POST-EXPERIMENTAL QUESTIONNAIRE FOR STUDY 2

1. Rate the other subject's general performance during the study.

He tried very hard	/ / / / / / / /	He did not try at all
He was very capable	/ / / / / / / /	He was not capable at all

2. Rate your impression of the other subject during the first phase.

Very thoughtful	/ / / / / / / /	Not at all thoughtful
Very aggressive	/ / / / / / / /	Not at all aggressive
Very accepting	/ / / / / / / /	Not at all accepting
Very kind	/ / / / / / / /	Not at all kind
Very competitive	/ / / / / / / /	Not at all competitive
Very fair	/ / / / / / / /	Not at all fair
Very reasonable	/ / / / / / / /	Not at all reasonable
Very angry	/ / / / / / / /	Not at all angry

3. (a) Rate your own general feelings during the first phase.

Very motivated	/ / / / / / / /	Not at all motivated
Very interested	/ / / / / / / /	Not at all interested
Very frustrated	/ / / / / / / /	Not at all frustrated

Very pleased	/ / / / / / / /	Not at all pleased
Very upset	/ / / / / / / /	Not at all upset
Very angry	/ / / / / / / /	Not at all angry

3. (b) Rate your own general feelings during the second phase.

Very motivated	/ / / / / / / /	Not at all motivated
Very interested	/ / / / / / / /	Not at all interested
Very frustrated	/ / / / / / / /	Not at all frustrated
Very pleased	/ / / / / / / /	Not at all pleased
Very upset	/ / / / / / / /	Not at all upset
Very angry	/ / / / / / / /	Not at all angry

4. To what extent do you feel that the cause of the other subject's noise settings and the amount of stimulation you received in the first phase was due to

Yourself	/ / / / / / / /	The other subject

5. To what extent do you feel the other subject's stimulation was justified in the first phase?

Very justified	/ / / / / / / /	Not at all justified

6. Rate your own performance on the reaction time contest in relation to your opponent.

Better	/ / / / / / / /	Worse

7. To what extent do you feel the other subject was trying to help you you perform better on the reaction time contest by his choice of

noise settings?

Help a great deal / / / / / / / / Not help at all

8. To what extent do you think the other subject knew which switches controlled which levels of noise?

Knew completely / / / / / / / / Did not know at all

9. To what extent do you feel it was appropriate to shock the other subject other than the fact that it was required by the experimenter?

Very appropriate / / / / / / / / Not at all appropriate

10. Rate your feelings about shocking the other subject on the following scales.

Not at all afraid / / / / / / / / Very afraid

Not at all pleased / / / / / / / / Very pleased

Not at all anxious / / / / / / / / Very anxious

11. What did the experimenter say the effect of increasing the level of shock was on learning?

12. Do you think that shock had any effect on the other subject's performance?

Improved performance greatly / / / / / / / / Hindered performance greatly

13. How important was it to you to do well?

Very important / / / / / / / / Not at all important

14. How much do you think you would like the other subject?

Like very much / / / / / / / / Not like at all

15. How willing would you be to work on another project with the other subject?

Very willing / / / / / / / / Not at all willing

16. (a) What were you thinking about in the first phase?

(b) What were you thinking about in the second phase?

17. Did you understand the purpose of the experiment? Would you explain it briefly in your own words.

18. Any comments?

12

APPENDIX CI

Analysis of Direct Physical Aggression (Intensity of Shock to C) as a Function of the Normativeness of Attack and Level of Defeat

Source of Variation	SS	df	MS	F
N (Normativeness)	27.56	1	27.56	6.38**
D (Level of Defeat)	108.37	2	54.19	12.55***
T (Trials)	.79	2	.40	-
ND	28.29	2	14.15	3.28*
N at D_1	7.52	1	7.52	-
N at D_2	48.00	1	48.00	11.12**
N at D_3	.34	1	.34	-
NT	1.62	2	.81	-
DT	1.46	4	.36	-
S (ND)	181.37	42	4.32	-
NDT	12.21	4	3.05	1.70
ST (ND)	151.24	84	1.80	-

* $p<.05$

** $p<.025$

*** $p<.01$

APPENDIX C2

Analysis of Subjects' Ratings of Normativeness of Attack

Source of Variation	SS	df	MS	F
N (Normativeness)	27.00	1	27.00	11.34**
D (Defeat)	6.13	2	3.06	1.28
ND	12.12	2	6.06	2.54
S (ND)	99.00	42	2.38	

** $p<.01$

APPENDIX C3

Analysis of Subjects' Ratings of Their Performance in Relation to Their Opponent

Source of Variation	SS	df	MS	F
N (Normativeness)	.21	1	.21	-
D (Defeat)	144.88	2	72.44	112.16**
ND	.79	2	.40	-
S (ND)	27.12	42	.65	

** $p<.001$

APPENDIX C4

Analysis of Subjects' Ratings of Frustration

Source of Variation	SS	df	MS	F
N (Normativeness)	2.08	1	2.08	-
D (Defeat)	32.37	2	16.19	6.54**
ND	.79	2	.40	-
S (ND)	103.99	42	2.48	

** $p < .01$

APPENDIX C5

Analysis of Subjects' Ratings of Their Opponent's Capableness

Source of Variation	SS	df	MS	F
N (Normativeness)	1.02	1	1.02	-
D (Defeat)	8.04	2	4.02	3.09*
ND	.79	2	.40	-
S (ND)	54.62	42	1.30	

* $p < .10$

APPENDIX C6

Analysis of Subjects' Ratings of Their Opponents' Intentions

Source of Variation	SS	df	MS	F
N (Normativeness)	.83	1	.83	-
D (Defeat)	71.17	2	35.58	10.77**
ND	.67	2	.33	-
S (ND)	138.75	18	3.31	

** $p<.01$

APPENDIX C7

Analysis of Subjects' Ratings of the Degree to Which They Felt Themselves to be the Cause of the Attack

Source of Variation	SS	df	MS	F
N (Normativeness)	12.00	1	12.00	3.66*
D (Defeat)	9.88	2	4.94	1.51
ND	1.63	2	.81	-
S (ND)	137.75	42	3.28	

* $p<.10$

APPENDIX C8

Analysis of Subjects' Ratings of Justification for the Attack

Source of Variation	SS	df	MS	F
N (Normativeness)	.83	1	.83	-
D (Defeat)	15.04	2	7.52	5.14*
ND	10.04	2	5.02	3.43*
S (ND)	61.50	42	1.46	

* $p < .05$

APPENDIX C9

Analysis of Subjects' Ratings of Appropriateness for Shocking Their Opponent

Source of Variation	SS	df	MS	F
N (Normativeness)	1.02	1	1.02	-
D (Defeat)	12.54	2	6.27	3.80*
ND	.54	2	.27	-
S (ND)	69.37	42	1.65	-

* $p<.05$

APPENDIX DI

Analysis of Direct Physical Aggression (Intensity of Shock) as a Function of the Foreseeability of Attack and Level of Defeat

Source of Variation	SS	df	MS	F
F (Foreseeability)	.56	1	.56	-
D (Defeat)	30.06	2	15.03	3.71**
T (Trials)	4.06	2	2.03	
FD	21.17	2	10.58	2.61*
F at D_1	1.69	1	1.69	-
F at D_2	30.08	1	30.08	7.01**
F at D_3	2.52	1	2.52	-
FT	8.00	2	4.00	1.92
DT	20.40	4	5.10	2.45
S (FD)	170.04	42	4.05	
FDT	4.96	4	1.24	-
ST (FD)	174.57	84	2.08	

* $p<.10$

** $p<.05$

APPENDIX D2

Analysis of Subjects' Ratings of Their Opponent's Knowledge of the Correspondence Between the Different Switches and the Different Levels of Noise

Source of Variation	SS	df	MS	F
F (Foreseeability)	247.52	1	247.52	232.97**
D (Defeat)	3.17	2	1.58	1.49
FD	1.19	2	.58	-
S (FD)	44.62	42	1.06	

** $p<.001$

APPENDIX D3

Analysis of Subjects' Ratings of Own Performance

Source of Variation	SS	df	MS	F
F (Foreseeability)	.83	1	.83	-
D (Defeat)	142.04	2	71.02	94.70**
FD	.42	2	.21	-
S (FD)	31.50	42	.75	

** $p<.001$

APPENDIX D4

Analysis of Subjects' Ratings of Frustration

Source of Variation	SS	df	MS	F
F (Foreseeability)	1.69	1	1.69	-
D (Defeat)	57.79	2	28.90	9.40**
FD	2.37	2	1.19	-
S (FD)	129.12	42	3.07	

** $p<.01$

APPENDIX D5

Analysis of Subjects' Ratings of Opponent's Aggressiveness

Source of Variation	SS	df	MS	F
F (Foreseeability)	3.00	1	3.00	1.45
D (Defeat)	18.88	2	9.44	4.56*
FD	.13	2	.06	
S (FD)	87.00	42	2.07	

* $p<.05$

APPENDIX D6

Analysis of Subjects' Ratings of Opponent's Competitiveness

Source of Variation	SS	df	MS	F
F (Foreseeability)	.52	1	.52	-
D (Defeat)	47.37	2	23.69	11.69**
FD	1.79	2	.90	-
S (FD)	85.12	42	2.03	

** $p<.01$

APPENDIX D7

Analysis of Subjects' Summed Ratings of Opponent's Thoughtfulness, Acceptingness, Fairness, and Reasonableness

Source of Variation	SS	df	MS	F
F (Foreseeability)	24.08	1	24.08	1.71
D (Defeat)	77.04	2	38.52	2.74*
FD	4.29	2	2.15	-
S (FD)	590.49	42	14.06	

* $p<.10$

APPENDIX D8

Analysis of Subjects' Ratings of Opponent's Intention

Source of Variation	SS	df	MS	F
F (Foreseeability)	1.33	1	1.33	-
D (Defeat)	6.17	2	3.08	1.49
FD	11.17	2	5.58	2.70*
S (FD)	87.00	42	2.07	

* $p<.10$

APPENDIX D9

Analysis of Subjects' Ratings of Own Anger

Source of Variation	SS	df	MS	F
F (Foreseeability)	3.52	1	3.52	2.12
D (Defeat)	18.17	2	9.08	5.48**
FD	10.17	2	5.08	3.07*
S (FD)	69.62	42	1.66	

* $p<.10$

** $p<.05$

APPENDIX D10

Analysis of Subjects' Ratings of Justification for the Attack

Source of Variation	SS	df	MS	F
F (Foreseeability)	3.00	1	3.00	2.61
D (Defeat)	18.50	2	9.25	8.05**
FD	3.50	2	1.75	1.52
S (FD)	48.25	42	1.15	

** $p<.01$

APPENDIX DII

Analysis of Subjects' Ratings of Appropriateness for Shocking their Opponent

Source of Variation	SS	df	MS	F
F (Foreseeability)	6.02	1	6.02	2.87*
D (Defeat)	16.63	2	8.31	3.96**
FD	1.54	2	.77	-
S (FD)	88.12	42	2.10	

* $p<.10$

** $p<.05$